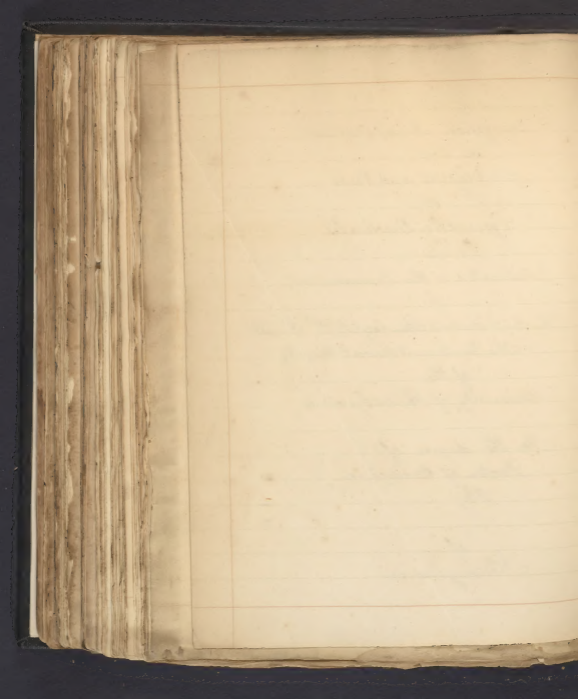


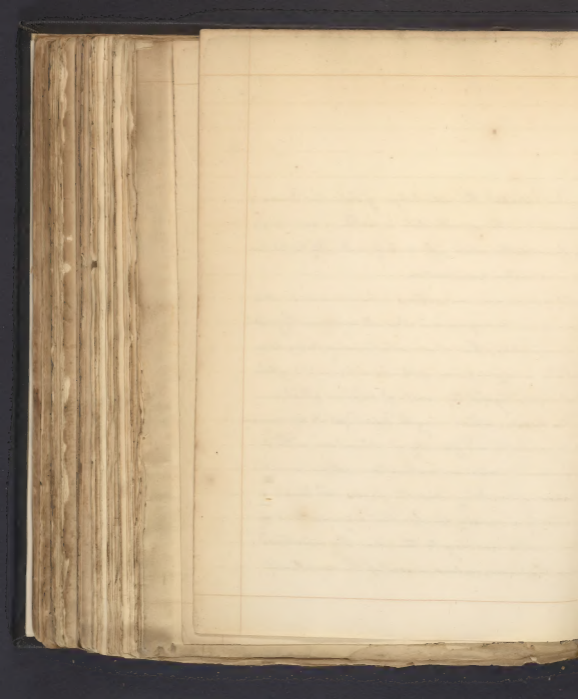
Anno
Inaugural Dissertation,
on the
Nature and Cure
of
Synanche Trachealis,
or
Croup.
Submitted to the Examinations
of
The Rev^d Medicine Beasley, L.D. Provost,
The Trustees and Medical Faculty
of the
University of Pennsylvania
In the degree of
Doctor of Medicine
By
of
Pennsylvania



Amidst the vast catalogue of destructive diseases, to which mankind in the infantile state is liable, no one is more formidable when left to itself or tardily treated, than the one now under consideration.

It is moreover so insidious in its approach, so rapid and alarming in its progress, and above all so frequently fatal in its termination, that it sometimes proves destructive before there is any suspicion of its character, and is often when discovered beyond the reach of medical assistance.

This disease, which may be defined (at its commencement) to consist in a difficulty of respiration with a peculiar shrill noise in inspiration, without much appearance of swelling about the fauces and throat, is designated by a variety of appellations given to it by different writers according to the ideas they entertained respecting the cause, nature, or seat, of the complaint.

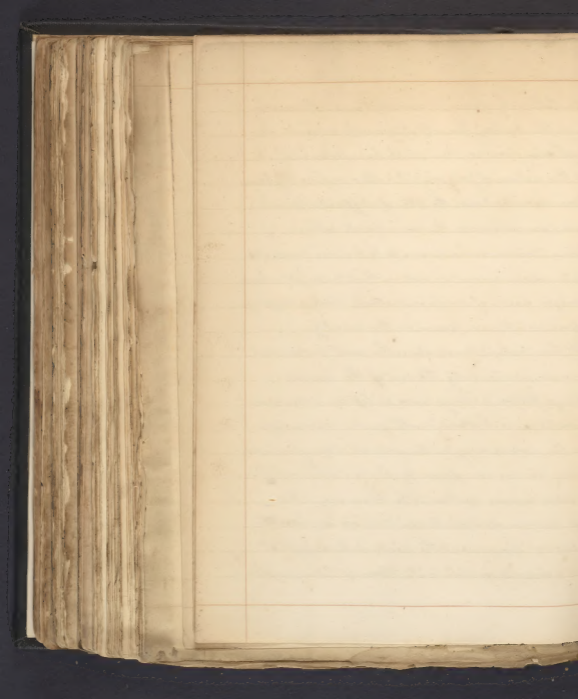


Doctor Cullen (by whom it was considered as an inflammatory affection of the trachea) has called it *typhus trachealis*. By Dr. Michaelis (from an idea which he entertained of its being of the nature of *typhus*), it is styled *angina Polypsea*; Dr. Home describes it under the title of *stiffness of the trachea*. It has also been noticed under the name of acute asthma by Dr. Miller, *Pneumonia trachealis* by Darwin, *tracheitis* by a writer whose name I do not recollect, &c. &c. It is known by the vulgar name of croup in Scotland, *chock* or *stiffing* in Ireland, and *Hives* or *Hearns*, in this country.

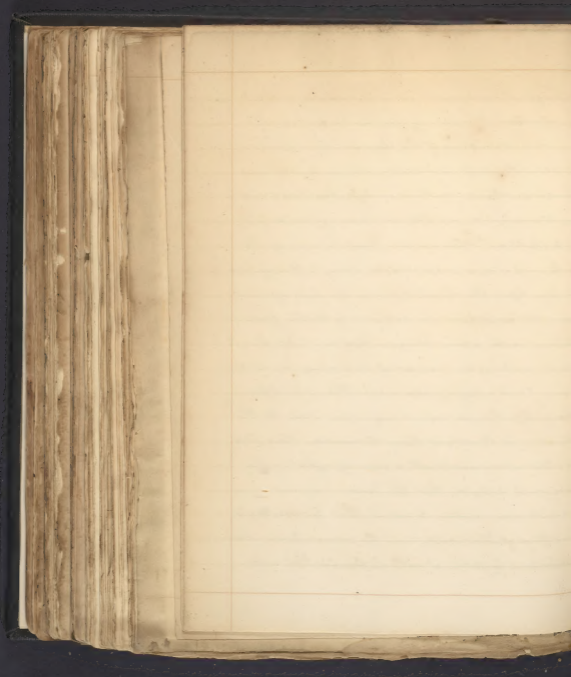
Of these perhaps *tracheitis* is the most proper, as it denotes more particularly the seat of the disease.

"To change however is always more or less an error, and in no instance is it attended with greater disadvantages than in the technology of the sciences." I therefore prefer continuing the name given by Doctor Cullen, as it is much better known by that title than any other.

Croup has been considered though I believe erroneously, as an original disease, and the credit of having first noticed it is generally ascribed to Dr. Home of Edinburgh;



But Professor Chapman observes in his lectures on the practice of medicine, in turning over the leaves of an old volume of the Transactions of the Royal Society of London, I find well authenticated by Inspection, the words "continues he" who was an obscure practitioner describes it as a new disease appearing at Manchester, and proving particularly fatal to children." There are other proofs however of the disease being of a more ancient date. Though it may have existed long before that period I believe the first regular history of the complaint was published by Martin Ghiesb. an Italian writer about the year 1749. In 1764, a graduate of Upsall published an account of two cases, and about the same period a paper appeared on this subject from the pen of Dr. Bergen, which was a year prior to the publication of Dr. Blom's Essay. I mention these facts as they stand upon record, with a view of exposing the fallacy of the opinion that the disease is a new one, and I will even venture to assert, that by referring to the writings of Hippocrates and the commentaries upon his Aphorisms by Galen, it will be found that even

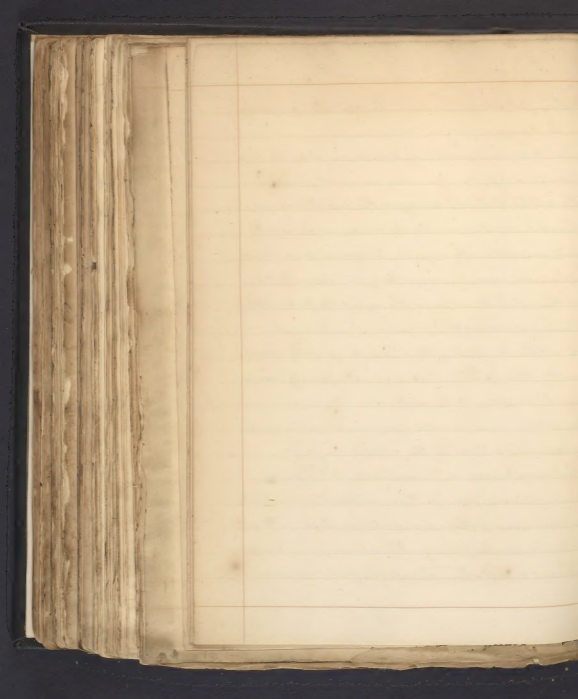


the Father of Medicine himself had an obscure knowledge of a similar disease.

But it may be enquired, why a disease as old as the time of Hippocrates and Galen, was never accurately described until the middle of the 18th Century. To this I would answer, that there are several circumstances, which when jointly considered, are sufficiently adequate to account for a disease of this character, remaining so long in obscurity. The first of these I shall notice, is the age of the patient from which in a great majority of instances no information could be obtained, respecting the nature of seat of the complaint.

Secondly the liability there is in all infantile diseases of a similar nature to be confounded. The same difficulty might also arise, in after life were it not for some circumstances best detailed by the patient himself.

What would enable us, I would ask, to designate between inflammation of the intestines and peritonitis but a knowledge of those circumstances. Each is alike attended by an acute pain in the abdomen increased by pressure, a hot skin furred tongue, great--



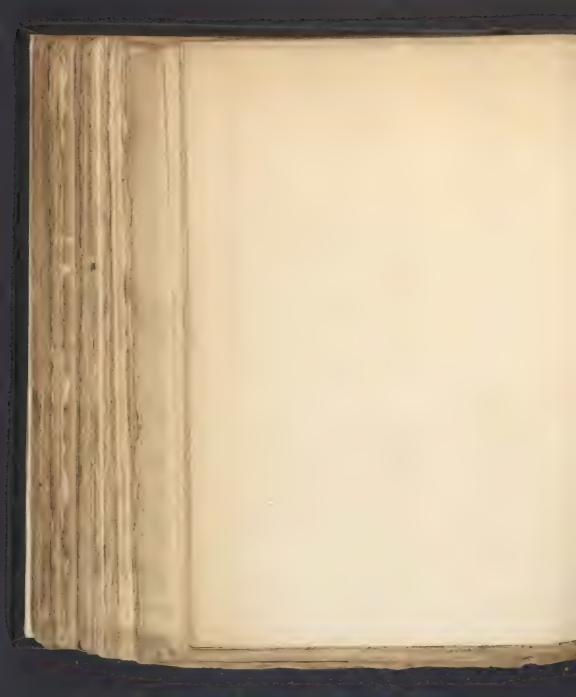
inflation of the stomach, and a small, quick, and corded pulse. But in enteritis there is often a frequent desire to go to stool, accompanied with tormina and tenesmus, and an abatement of pain after each motion;

While in peritonitis no such tendency exists; here the bowels are either obstinately constipated or in a natural condition, without any desire to go to stool, or any abnormal action by so doing.

Under circumstances unfortunately considered, it will I think be admitted that the disease in question might very readily have been confounded with some of the other forms of typhus, or several other diseases as *Bottoma Infantum* &c.

Think of the insidious manner in which it approaches, often commencing like a common cold; its rapid and terrific progress when fully formed, and above all its too frequent speedy termination in death, that frequently the physician was not called in time to make any just observations on the disease.

The circumstances however which had the greatest



weight in retarding the discovery of the nature of this disease, were the aversion which then existed, on the part of the physician, as well as the public, to the examination of bodies after death, and their ignorance of the appearances of hoars in a healthy state.

But fortunately for the cause of humanity, that dark period of ignorance and superstition has passed away, and a new Era in medical science has arrived, when more frequent examinations after death, physicians have at length arrived at that correctness of pathology and practice, which could only be obtained by such investigations.

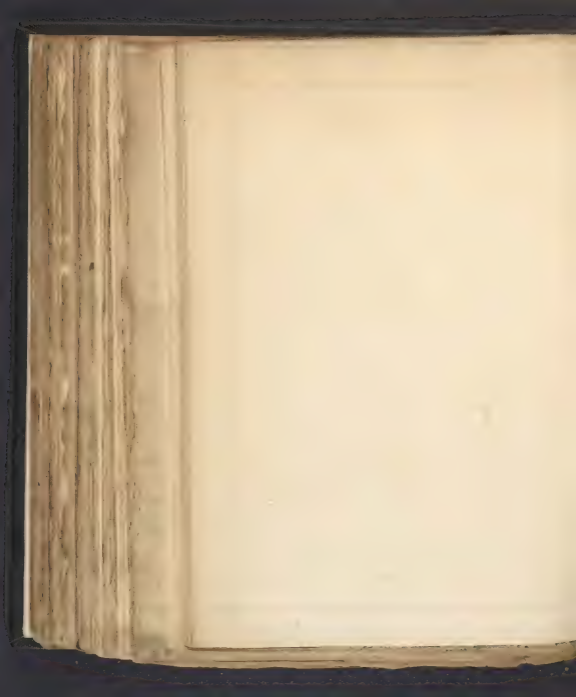
This disease is in general confined to the early periods of life, most usually making its attack between the first and second years, though it sometimes occurs in children within the month, or in persons who have arrived at the age of puberty: I am informed that the late Dr. Adam Sedgwick of this city use to mention a case in his lectures of a man upwards of 40 years of age who was attacked with it. Several cases of a similar nature are noticed by Hoëffer, Phapmann, and



it is a fact of which we are sufficiently established, that
the illusive power of our intellect, take a nation
to it.

The remote causes of this disease are generally
divided into two, the exciting, and the predisposing; Of the former
very little is satisfactorily understood; they have been ascribed
to a certain kind of living bug, or fungus, together with
a group or robust habit of body. & the latter or
exciting, may be considered a damp or moist
atmosphere, especially cold and in fact all the
vicissitudes of a variable climate. It occurs most
frequently in the winter, and during which the
weather is variable, and therefore we may infer
that cold and moisture have some influence in
producing it. Although no one considers it at
the present day, as contagious, it is stated to have
prevailed epidemically, upon very respectable
authorities.

It has been observed to be most prevalent
near the sea, where the atmosphere is loaded with



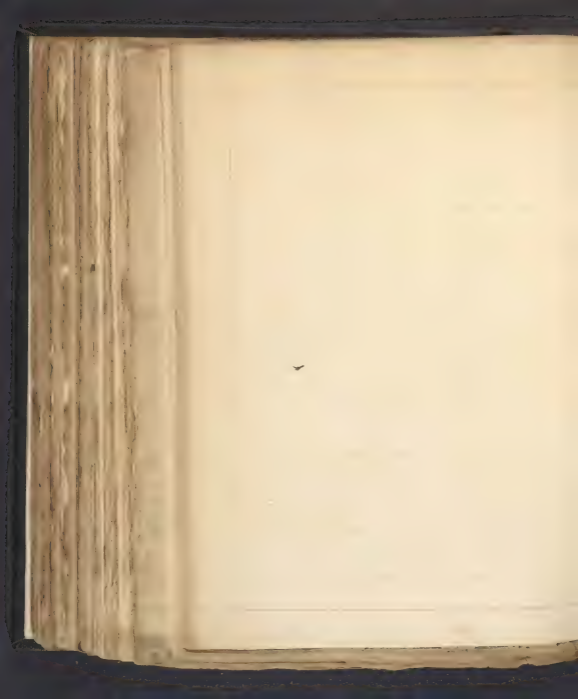
moisture, though it also occurs in inland situations.

It is a singular fact though well authenticated, that it is endemial to particular situations. It is stated that at Edinburgh the capital of Scotland, it is of rare occurrence, while at Leith which is the seaport of Edinburgh its ravages are very alarming.

The same peculiarity exists in the cold between Baltimore, and Wells River. While the former is comparatively free from the disease, in the latter which is immediately in its vicinity, it is remarkably prevalent.

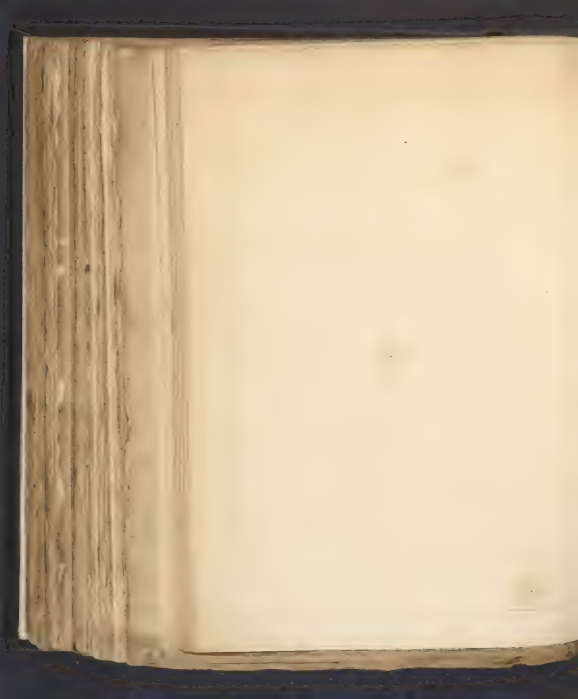
Some families are much more liable to this disease than others, and when a child is once attacked, it is very apt to have a return of the complaint upon exposure to cold.

Croup has been divided by some writers into spasmodic and inflammatory or humoral, but as I consider this division of no practical importance, I shall here omit it altogether. In some instances the disease comes on suddenly, and in those cases it is evidently spasmodic. In others it advances with less rapidity,



assuming at its commencement, all the appearances
of a common cold, and is thus allowed to proceed
unmolested to a considerable height, before its nature
is discovered, and in these cases its inflammatory
character is not to be denied.

The following accurate history of the
symptoms, is given by Doctor Cullen. "Many
times, many cases in which the ordinary signs, & some of
cough, but several in the number of symptoms of the
inflammation of the larynx appear. The very first. They are,
a hoarseness, with some stridulous and ringing sound
both in speaking and coughing as if the noise
came from a larynx tube. At the same time
there is a sense of heat about the larynx, some
difficulty of respiration, with a noisy, rough sound in
inspiration, as if the passage of the air were obstructed.
The cough which attends is commonly dry; and if any
thing be of it at all, it is a matter of a few ten's of
minutes, and sometimes films assembling, portions of a
membrane. Together with these symptoms there



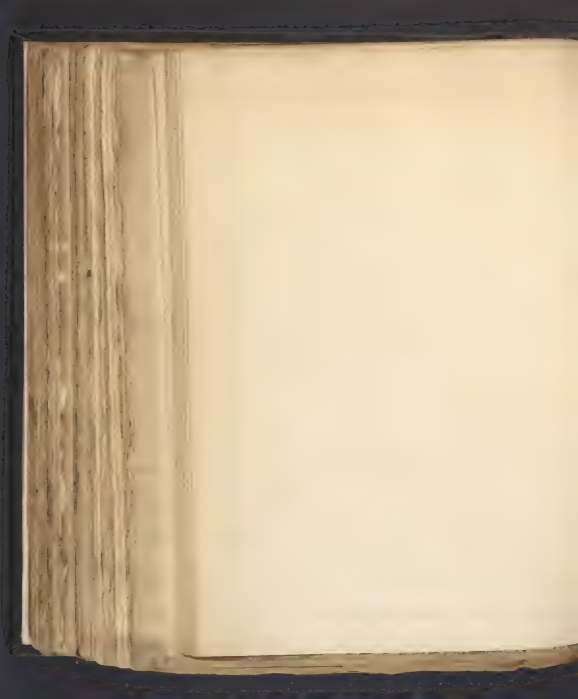
is a frequency of pulse, a restlessness, and an uneasiness of chest.

When the internal forces are viewed, they are sometimes without any appearance of inflammation: but frequently a congestion and even swelling, appears; and sometimes in the lungs there is an accumulation of matter like so that rejected by coughing. With the symptoms now described, and particularly with great difficulty of breathing and a sense of strangling in the throat, the patient is sometimes suddenly suffocated.

The appearances on dissection are very various, according to the length of time the disease existed, before death took place. When the attack comes on suddenly and the patient falls a victim in the commencement of the disease, owing to the violence of the spasmodic action, it is suffocated by a collection of mucus in the trachea, the appearances on dissection differ but little from the healthy structure. But when the disease has advanced a little in the commencement and even through its different stages regularly, the morbid appearances are

very considerable. In those instances the ulcerations
of the trachea are most usually the seat of inflam-
mation, though sometimes it extends to the
minute ramifications of the bronchia, and even
into the very substance of the lungs. adhesion
& cavity discovered between the lungs & pleura
sometimes the lungs have been found firm & white
and even calcified. Not a little has been written
respecting tubercular membrane, which forms in
the trachea and bronchi with the increasing inflam-
mation. Sometimes a membrane is sometimes exist-
ent by no means compared to any, but I do
believe that it is of much infrequent occurrence,
than physicians generally suppose; In fact I am
very much inclined to believe that many of these
membranes are composed of condensed mucus or coagulated
secretions, for a very delicate organized membrane.

In the treatment of this disease I am
convinced to acknowledge, that I have nothing





is, & relieve the more formidable symptoms, we shall first consider that part of our subject.

Called to a child in the early stage of the disease, where the respiration is difficult and laboured, with the cough dry and shrill, the first object would be, to endeavour to excite vomiting. It must be insinuated, a variety of Emetic substances have been recommended, as the Opium, the Squill, the Seneca, &c. And as the disease is often spasmodic in its commencement, we might suppose these would answer well. Notwithstanding this, plausibility of such an opinion, experience has proved the Emetic Tartar to be much better adapted to this complaint. It being insipid, as well as inodorous, the minuteness of the dose, and above all, the gentleness with which it operates, are conspicuous, & recommend it strongly to our attention.

It need not here be observed that owing to the great tenderness of the system in this complaint, the doses of every article exhibited, should be proportionately

larger, several ways of diminishing the Emetic action, have been recommended, and perhaps the best is in the form of watery solution, or wine; though the latter has been objected to on account of the stimulating nature of the wine in its composition.

If after this article has been freely given the desired effect is not produced, its operation should be assisted by the use of the warm bath. When this also fails and the child is robust, a vein in the arm or neck should be opened, and blood freely detached; after which the Emetic and warm bath are to be repeated. But should the attack resist all these measures, it has been strongly recommended to bleed the child, or patient ad deliquium animi. This practice, however, I have never found necessary; the Emetic, the warm bath, and a moderate bleeding have generally proved effectual, in all the cases I have seen. But of its efficacy in very obstinate cases there can be no doubt. Indeed it is stated by the most respectable authority, that

Bloodletting when pushed to this extent is always
effective, and that as soon as Symplocie is induced
all the bad symptoms vanish, & the sufferer
is immediately relieved.

When the force of the disease is then
broken by the more powerful remedies, we
resort to the administration of cathartics.

Of these Cyper is the most effectual is calomel.
It possesses all those characteristics, as a cathartic,
that the Emetic tartar does as an Emetic, and is
therefore equally well adapted to the cases of child-
hood. It should be given in large doses and
frequently repeated, in order to cause the labor
energies of the system. Exhibited in this
manner it has a twofold operation. Besides
its action on the stomach and intestinal canal,
which is that of exciting free discharges by stool,
it operates also as an expectorant, relieving the
cough difficulty of respiration and tightness
of the chest.

The practice of employing calomel in this disease was introduced by Dr. Adam Ruhn of this city, who gave it in this manner after bloodletting and emetics. Though the credit of having first employed it is ascribed to Dr. Hamilton Professor of Midwifery at Edinburgh, who it is asserted depends exclusively upon it, in doses of from one to five grains every hour according to the age of the patient, after using the warm bath, gradually discontinuing it, as the heating is relieved. It is stated by him, that in no case in which he employed it before the appearance of lividness of the lips, and other mortal symptoms, has he failed in curing the disease. However effectual this practice may be in Scotland, it is not adequate to overcome that gigantic form of the disease which prevails in our country.

Even when we have the disease thus completely within our power, we may want in the use of rectification, and it is here that

The Seneka proves so beneficial. Notwithstanding
this remedy is now highly extolled in the com-
mencement of Pneum. by Dr. Ferrius of Mary-
land, I should decidedly prefer the Emetic Salts
and consider the Seneka much better adapted
to the stage we have just been considering.

It must however be recollected that
the practice of which I have been speaking,
is only adapted to the early or forming stage
of the complaint. When the disease has
been allowed to proceed unobscured for 6 or 10 hours
the case becomes somewhat different. By this
time, the inflammation has extended itself
into the very substance of the lungs (as is pointed
out in the Dissections of Dr. Cheyne and Baillie)
or what perhaps is more common, the lungs
are engorged with blood the disease assuming
at this juncture, the character of Pneumonia
Notha.

In the early stage of the disease the

is enough to excite, and the child
The child soon stops and uneasy, without appear-
ing to suffer any particular pain. In the second
stage, the eyes are prominent and inflamed,
the expiration becomes more stertorous and is
at last performed with great difficulty, the
pulse is generally full and tense, though in
the child be sinking it is weak feeble and
irregular.

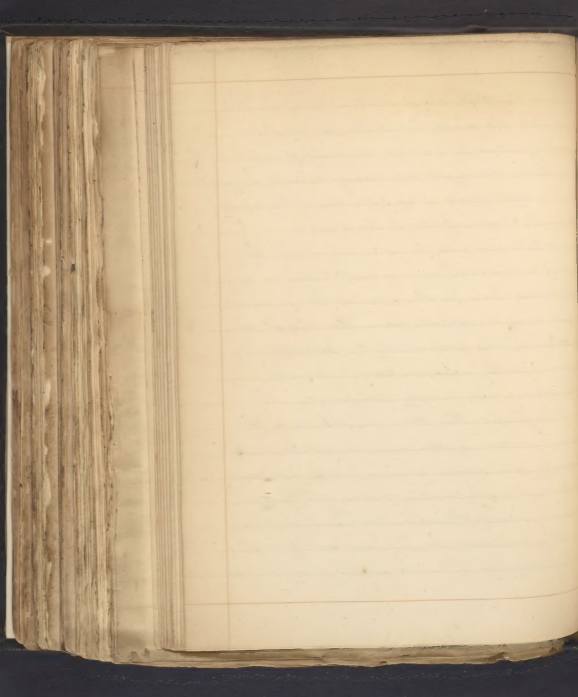
Our indications here are to relieve the lungs,
and for this purpose, the child should be placed
in a warm bath and a powerful emetic given.
In this instance the sulphate of zinc has been
strongly recommended, but I have seen no
benefit result from the Emetic. I think this is not
nearly so efficacious in relieving the oppressed state of the
lungs, as it should be, should and a small
quantity of it be subtracted, if the pulse will
admit of the system being it may be a little
with a sedative, given by the rectum with warm



Should this prove ineffectual, a blister must be applied to the chest, but if the case be of too urgent a nature to wait for the tardy operation of a blister, we ought to endeavour to excite respiration by cloths wrung out of hot water, or the oil of Turpentine, and applied to the chest.

As soon as the lungs are relieved and the circulation equalized, we may resort to the use of expectorants. Even in this stage of the complaint, much may be expected from the liberal use of calomel. This followed by the decoction of Seneka, or the syrup or syrup of squills, will often prove exceedingly beneficial.

To fulfil the third indication, or to prevent a return of the disease, the patient should carefully guard against any vicissitudes, or exposure to the weather, by wearing warm clothing, and flannel next the skin. He should be placed in a dry, pleasant atmosphere, and if much debilitated, tonics and a generous Diet should



be recommended.

I cannot conclude this Essay, without offering to the Medical Professors in this University, my warmest acknowledgements, for the many advantages I have derived from their lectures. That they may all continue to enjoy that reputation which they now possess, as public teachers and private individuals, is my most ardent wish.

